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				U.S. PATENT DOCUMENT	rs	
	Cite No. <sup>1</sup>	U.S. Pater	nt Document	Name of Patentee or Applicant of	Date of Publication	Pages, Columns, Lines, Where Relevan
Examiner Initials*		Number	Kind Code <sup>2</sup> (if known)	Cited Document	of Cited Document MM-DD-YYYY	Passages or Relevant Figures Appear
WL	Pl	4,304,641		Granadia et al.	12-08-1981	
<i>Y</i> )	P2	5,222,310		Thompson et al.	06-29-1993	
War	P3	5,377,708		Bergman et al.	01-03-1995	
Mr-	P4	5,421,987		Tzanavaras et al.	06-06-1995	
Mr	P5	5,443,707		Mori	08-22-1995	
<i>P</i>	P6	5,489,341		Bergman et al.	02-06-1996	,
4	P7	5,516,412		Andricacos et al.	05-14-1996	
M	P8	5,584,310		Bergman et al.	12-17-1996	
hir-	P9	5,620,581		Ang	04-15-1997	
Y.	P10	5,670,034		Lowery	09-23-1997	
M	P11	5,678,320		Thompson et al.	10-21-1997	
M	P12	5,744,019		Ang	04-28-1998	
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Examiner Initials*		Foreign Patent Document			Date of	Pages, Columns, Lines, Where	
9	Cite No.1	Office <sup>3</sup> Numb	er4 Kind Code5 (if known)	Name of Patentee or Applicant of Cited Document	Publication of Cited Document MM-DD-YYYY	Relevant Passages or Relevant Figures Appear	Té
j.d.	FI	EP. 0 257 670		David Raymond Eastham, et al.	03-02-1988		
W.	F2	WO 90/00476		David B. Tuckerman	01-25-1990		
Mr	F3	WO 95/20064		Edward N. Berg	07-27-1995		
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Examiner Signature Williams	1	Date	7/2 1001
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<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>&</sup>lt;sup>1</sup> Unique citation designation number.

<sup>&</sup>lt;sup>2</sup> See attached Kinds of U.S. Patent Documents.

<sup>&</sup>lt;sup>1</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3).

For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.

<sup>&</sup>lt;sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible.

<sup>&</sup>lt;sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

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Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.  PATENT ABSTRACT OF JAPAN, "Plating Method," Publication No. 57171690, Publication Date: Oct. 22, 1982	T²
DΙ	PATENT ABSTRACT OF JAPAN, "Plating Method," Publication No. 57171690, Publication Date: Oct. 22, 1982	
D2	PATENT ABSTRACT OF JAPAN, "Partial Plating Device," Publication No. 01234590, Publication Date: Sep. 19, 1989	
D3	CONTOLINI et al., "Copper Electroplating Process for Sub-Half-Micron ULSI Structures," VMIC Conference 1995 ISMIC - 104/95/0322, Pgs. 322-328, Jun. 27-29, 1995	
D4	DEVARAJ et al., "Pulsed Electrodeposition of Copper," Plating & Surface Finishing, Pgs. 72-78, Aug. 1992	
D5	DUBIN, "Copper Plating Techniques for ULSI Metallization," Advanced MicroDevices **	
D6	DUBIN, V.M., "Electrochemical Deposition of Copper for On-Chip Interconnects," Advanced MicroDevices	
D7	GAUVIN et al., "The Effect of Chloride Ions on Copper Deposition," <u>J. of Electrochemical Society</u> , Vol. 99, Pgs. 71-75, Feb. 1952	
D8	OSERO, N.M., "An Overview of Pulse Plating," Plating and Surface Finishing, Mar. 1986	
D9	PASSAL, F., "Copper Plating During the Last Fifty Years," Plating, Pgs. 628-638, Jun. 1959	-
DIO	SINGER, P., "Copper Goes Mainstream: Low k to Follow," Semiconductor International, Pgs. 67-70, Nov. 1997	
]	D5 D6 D7 D9 D9	DEVARAJ et al., "Pulsed Electrodeposition of Copper," Plating & Surface Finishing, Pgs. 72-78, Aug. 1992  DUBIN, "Copper Plating Techniques for ULSI Metallization," Advanced MicroDevices *  DUBIN, V.M., "Electrochemical Deposition of Copper for On-Chip Interconnects," Advanced MicroDevices *  GAUVIN et al., "The Effect of Chloride Ions on Copper Deposition," J. of Electrochemical Society, Vol. 99, Pgs. 71-75, Feb. 1952  OSERO, N.M., "An Overview of Pulse Plating," Plating and Surface Finishing, Mar. 1986  PASSAL, F., "Copper Plating During the Last Fifty Years," Plating, Pgs. 628-638, Jun. 1959

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<sup>\*</sup> date not available

Unique citation designation number.
 Applicant is to place a check mark here if English language Translation attached.

Form PT(	)-1449				Docket Number 495152000110 Application Number 09/837,902			
INFO	<b>R</b> MATI	ON DISCLO	SURE CITATION	J Applicant	Applicant			
	NI 💦	AN APPLIC	ATION		Hui	WANG		
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			U.S. PA	TENT DOCUMENT	S			
Examiner Initials	Ref. No.	Date	Document No.	Name	Class	Subclass	Filing I	
W	1.	10/31/2000	6,140,234	Uzoh et al.		_		
WL	2.	1/16/2001	6,174,796 B1	Takagi et al.				
WL	3.	6/26/2001	6,251,528 B1	Uzoh et al.				
Examiner Initials	Ref.	Date	Document No.	PATENT DOCUME  Country	Class	Subclass	Transl	
Initials	No.			,			YES	NC
Mr	4.	11/4/1992	4-311591	Japan				
M	5.	8/12/1994	6-224202	Japan			9	
WL	6.	8/3/1993	5-195183	Japan		10	7	7
		1 2 /1 5 /1 00 /	6-73598	Japan				<i>ī</i>
M	7.	3/15/1994					4	
	8.	8/25/1992	Utility Model 2538705	Japan		i ein	17	<i>{</i> :
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22 22 22 22 22 22 22 22 22 22 22 22 22	9. 10. 11. 12. 13.	8/25/1992 8/1/1995 5/2/1995 1/9/1996 1/25/1994 2/9/1999	2538705 7-197299 7-113159 8-003153 6-017291 11-36096 11-80993	Japan Japan Japan Japan Japan Japan Japan Japan	(includi	1700	7 (ÚU.)	Pages,
22 22 22 22 22 22 22 22 22 22 22 22 22	9. 10. 11. 12. 13.	8/25/1992 8/1/1995 5/2/1995 1/9/1996 1/25/1994 2/9/1999	2538705 7-197299 7-113159 8-003153 6-017291 11-36096 11-80993	Japan Japan Japan Japan Japan Japan Japan Japan Japan	(includi		7 (ÚU.)	dages,

conformance and not considered. Include a copy of this form with next communication to applicant.

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